

We claim:

1. A method for loading solid particles into a multi-tube reactor, the reactor tubes having an inner diameter of at least 2 times the diameter of a single particle to be loaded therein, the reactor having an upper tube-sheet holding together the upper ends of the multitude of reactor tubes, the method comprising the following steps:

a) positioning a loading device having a plurality of holes on top of the upper tube-sheet such that the loading device rests on and substantially covers the upper tube-sheet and the holes correspond to the reactor tubes, said loading device comprising a plurality of adjacent polygonal plates, each polygonal plate having from 1 to 30 holes, each hole corresponding to one reactor tube, each hole having an diameter not greater than 95% of the inner diameter of its corresponding reactor tube and not smaller than 1.1 times the greatest dimension of a single particle to be loaded into said corresponding reactor tube, the polygonal plates also comprising means for holding the holes in correspondence with the respective reactor tubes, and wherein each plate is displaced from adjacent plates by an inter-plate spacing having a width not greater than the smallest dimension of a single particle to be loaded into said reactor, said inter-plate spacing for collecting dust and partial particles;

b) pouring the particles over the combined polygonal plates covering the tube-sheet;

c) sweeping the particles through the holes in the plates into the respective reactor tubes, whereby the particles fill the reactor tubes in a uniform manner and bridging is avoided;

d) removing residual particles and any dust remaining on the plates and in the inter-plate spacing; and

e) removing the loading device.

2. A method according to claim 1, wherein step c) is performed by a sweeping mechanism, comprising a sweeping element connected to an arm, the arm rotating around a central axis.